

**TITLE 20 ENVIRONMENTAL PROTECTION**  
**CHAPTER 5 PETROLEUM STORAGE TANKS**  
**PART 12 CORRECTIVE ACTION FOR STORAGE TANK SYSTEMS CONTAINING**  
**PETROLEUM PRODUCTS**

20.5.12.1 ISSUING AGENCY: New Mexico Environmental Improvement Board.  
[20.5.12.1 NMAC - Rp, 20 NMAC 5.12.100, 8/15/03]

20.5.12.2 SCOPE: This part applies to owners and operators of petroleum storage tanks as defined in 20.5.1 NMAC. If the owner and operator of a petroleum storage tank are separate person, only one person is required to comply with the requirements of this part, including any notice and reporting requirements; however, both parties are liable in the event of non-compliance.  
[20.5.12.2 NMAC - Rp, 20 NMAC 5.12.101, 8/15/03]

20.5.12.3 STATUTORY AUTHORITY: This part is promulgated pursuant to the provisions of the Hazardous Waste Act, NMSA 1978, sections 74-4-1 through 74-4-14; the Ground Water Protection Act, NMSA 1978, sections 74-6B-1 through 74-6B-14; the Water Quality Act, NMSA 1978, sections 74-6-1 through 74-6-17; and the general provisions of the Environmental Improvement Act, NMSA 1978, sections 74-1-1 through 74-1-15.  
[20.5.12.3 NMAC - Rp, 20 NMAC 5.12.102, 8/15/03]

20.5.12.4 DURATION: Permanent.  
[20.5.12.4 NMAC - Rp, 20 NMAC 5.12.103, 8/15/03]

20.5.12.5 EFFECTIVE DATE: August 15, 2003, unless a later date is indicated in the bracketed history note at the end of a section.  
[20.5.12.5 NMAC - Rp, 20 NMAC 5.12.104, 8/15/03]

20.5.12.6 OBJECTIVE: The purpose of this part is to provide for corrective action at sites contaminated by releases from petroleum storage tank systems and to protect the public health, safety and welfare and the environment of the state.  
[20.5.12.6 NMAC - Rp, 20 NMAC 5.12.105, 8/15/03]

20.5.12.7 DEFINITIONS: The definitions in 20.5.1 NMAC apply to this part.  
[20.5.12.7 NMAC - Rp, 20 NMAC 5.12.1201, 8/15/03]

20.5.12.8 to 20.5.12.1199 [RESERVED]

20.5.12.1200 GENERAL:

A. Owners and operators of petroleum storage tank systems shall take corrective action to address all releases, including such action as collection and analysis of relevant site-specific data, soil remediation, groundwater and surface water remediation and any other appropriate actions pursuant to this part, in a manner protective of public health, safety and welfare and the environment.

B. Upon confirmation of a release pursuant to 20.5.7 NMAC or identification and reporting of a release in any other manner, owners and operators of petroleum storage tank systems shall comply with the requirements of this part if the release:

- (1) is of unknown volume or is greater in volume than 25 gallons; or
- (2) is of any size and the owner or operator is directed by the department to comply with this part.

C. Owners and operators shall mail or deliver all written notices and reports required to be submitted to the department to the following address or a district office if approved by the department: Petroleum Storage Tank Bureau, New Mexico Environment Department, 2044 Galisteo Street, Santa Fe, New Mexico 87504.

D. Owners and operators shall comply with any site-specific timeline or deadline that is issued or approved in writing by the department at the time of workplan approval. If no applicable site-specific timeline has been issued or approved, the following time line shall apply to all corrective action requirements under this part. The time deadlines set forth in this part are computed from the date of reporting of a release or of reporting of the confirmation of a suspected release pursuant to 20.5.7 NMAC unless another event is specified in these regulations.

### Default Corrective Action Timeline

Deadline, in days from report date, as defined above:	Action or Deliverable Due
0	Report release or report confirmation of suspected release
3	72-Hour Report
14	14-Day Report
60	Submit NAPL Assessment
60	Initiate interim removal of contaminated soil
60	Preliminary Investigation Report
120	Secondary Investigation Report
150	Tier One Evaluation Report
180	Tier Two Evaluation Report
210	Tier Three Evaluation Report

When monitored natural attenuation is used:

510	Monitored Natural Attenuation (MNA) Plan
570	Implementation of MNA
935	First Annual MNA Monitoring Report
935	Annual Evaluation of MNA Report

When other remediation is used:

510	Conceptual Remediation Plan
540	Final Remediation Plan
600	Implementation of Remediation
690	First Quarterly Monitoring Report
965	Annual Evaluation of Remediation System Report

E. All owners and operators are responsible for compliance with all provisions of this part. An owner or operator may designate a representative to facilitate compliance with this part. The designation of such a representative shall not affect the department's right to seek compliance at any time from any owner or operator and shall not relieve owners or operators of any legal liabilities or responsibilities they may have under this part or otherwise under the law.

F. Except for 20.5.12.1203, 20.5.12.1204 and 20.5.12.1205 NMAC, owners and operators shall submit to the department written workplans for all required corrective action under this part. Workplans may be submitted in stages to reflect the sequence or types of corrective action required by 20.5.12 NMAC at the site, but all required workplans shall be submitted to and approved by the department in writing for technical adequacy before the corrective action is commenced.

G. Unless otherwise approved, all corrective action shall be performed by a qualified firm as specified in 20.5.16 NMAC and, when required in 20.5 NMAC, a professional engineer as defined in 20.5.1.7 NMAC.

(1) All contractors and their subcontractors shall have appropriate licenses and certifications and be in compliance with applicable local, state and federal laws and regulations, including but not limited to 29 CFR 1910 governing worker health and safety.

(2) Owners and operators shall identify all prime contractors and all subcontractors in all workplans submitted to the department.

H. Where site conditions are amenable, owners and operators may use accelerated site characterization techniques if pre-approved by the department.

I. Owners and operators shall construct all monitoring wells in accordance with the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved, unless other specifications are previously approved in writing by the department.

J. Owners and operators shall clearly mark and secure monitoring wells to prevent unauthorized access and tampering. Owners and operators shall close or abandon all wells in accordance with the requirements of any law and the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved. [20.5.12.1200 NMAC - Rp, 20 NMAC 5.12.1200, 8/15/03].

20.5.12.1201 [RESERVED]

20.5.12.1202 CRITERIA FOR TIER ONE, TIER TWO AND TIER THREE EVALUATIONS:

A. The department and owners and operators shall use these criteria for tier one, tier two and tier three evaluations as described in 20.5.12.1213, 20.5.12.1215 and 20.5.12.1217 NMAC, and the bureau's Guidelines for Corrective Action.

(1) Owners and operators shall develop a conceptual site exposure scenario to identify all current and potential future receptors, direct and indirect pathways, routes of exposure, and complete and incomplete exposure pathways, and to ensure that sufficient data is available to evaluate sites in accordance with this part.

(2) For all complete pathways, owners and operators shall calculate target concentrations for the relevant exposure media (air, soil, surface water, groundwater) using the following components: intake equations, fate and transport models and parameters, target risk goals, physical and chemical property parameters, toxicity parameters and exposure factors, as set forth in Chapter Four of the bureau's Guidelines for Corrective Action or as otherwise approved by the department. For specific procedures to calculate the target concentrations, refer to the bureau's Guidelines for Corrective Action.

(3) Using conservative default assumptions for the components listed in Paragraph (2) of this subsection, the department has developed tier one risk-based screening levels (RBSLs) for contaminants of concern (COCs) in soil. The tables of RBSLs for contaminants of concern appear in the bureau's Guidelines for Corrective Action and are incorporated by reference. Owners and operators shall compare representative site concentrations to tier one levels in accordance with 20.5.12.1213 NMAC and determine whether a tier two or a tier three evaluation in accordance with 20.5.12.1215 and 20.5.12.1217 NMAC is necessary.

(4) The tier two and tier three evaluations shall consider site-specific measurements or estimates for saturated hydraulic conductivity (cm/sec), groundwater gradient, soil bulk density (g/cc), soil gradation, soil moisture content (percent by volume), effective porosity, and fraction organic carbon content (percent), and other parameters if required by the department. Owners and operators shall compare representative site concentrations to the tier two site specific target concentrations (SSTLs) in accordance with 20.5.12.1215 NMAC.

(5) In no case will the department approve "No Further Action" status for a release if, for the target concentration for any contaminant of concern originating from the release or any route of exposure:

- (a) the individual carcinogenic risk exceeds 0.00001; or
- (b) the hazard quotient exceeds one.

(6) Owners and operators shall determine RBSLs using residential land use unless the owner or operator can demonstrate that the current and the reasonable future land use is or will likely be commercial or industrial and, therefore, that the assumption of commercial or industrial land use is equally protective of public health, safety and welfare and the environment.

(7) Target surface water concentration criteria shall be as provided in 20.6.2, 20.7.10 and 20.5.12.1233 NMAC.

(8) Target groundwater concentration criteria shall be as provided in 20.6.2 and 20.5.12.1233 NMAC, and, for domestic water supplies, as provided in 20.7.10 NMAC.

(9) Target concentrations for air, soil and water shall also take into account other factors including vegetation effects, sensitive environmental receptors, and nuisance considerations as required by this part.

B. Owners and operators shall obtain department concurrence with the results of and the procedures used for the tiered evaluations before a remediation plan is approved by the department, before a petition to the WQCC for a variance granting alternative abatement standards is forwarded by the secretary to the WQCC, or before "No Further Action" status is approved by the department.

[20.5.12.1202 NMAC - Rp, 20 NMAC 5.12.1202, 8/15/03]

20.5.12.1203 MINIMUM SITE ASSESSMENT, INITIAL RESPONSE:

A. Upon reporting of a release or reporting of the confirmation of a suspected release pursuant to 20.5.7 NMAC, owners and operators of the storage tank system shall immediately prevent any further release from the storage tank system by whatever means necessary, including removing product from the storage tank system or any part of the storage tank system that is known to leak or is suspected of leaking. If necessary, owners and operators shall remove the storage tank system from service in accordance with 20.5.8 NMAC.

B. Owners and operators shall inform the department in accordance with 20.5.7.700 NMAC of any release and action taken to mitigate immediate damage from the release.

[20.5.12.1203 NMAC - Rp, 20 NMAC 5.12.1203, 8/15/03]

20.5.12.1204 MINIMUM SITE ASSESSMENT, INITIAL ABATEMENT:

A. Owners and operators shall undertake the initial abatement and site investigation actions specified in this section within 72 hours of the reporting of a release or reporting of the confirmation of a suspected release pursuant to 20.5.7 NMAC, unless a different timeline is set forth elsewhere in this section or unless otherwise directed or approved by the department.

B. Owners and operators shall identify the location and details of construction of all private water supply wells, using readily accessible public records, within a 1,000 foot radius and all public water supply wells within a one mile radius of the storage tank system and shall determine if the identified wells lie within a designated wellhead protection area. Owners and operators shall take appropriate measures to ensure that these water supplies do not become contaminated.

C. Owners and operators shall contain or remediate releases which present an imminent threat of contamination to or are within 500 feet of a surface water course as soon as practicable to prevent contamination of surface water. If the surface water course is a drinking water supply, within 24 hours owners and operators shall notify the owners or operators of all downstream water supplies likely to be affected by the release.

D. If the release has already contaminated a water supply, owners and operators shall immediately provide a temporary replacement drinking water supply, as well as adequate warnings or other mechanisms to prevent persons from drinking or otherwise contacting water contaminated by the release. Within seven days of the reporting of a spill or release or the reporting of the confirmation of a suspected release pursuant to 20.5.7 NMAC that has contaminated a water supply, owners and operators shall provide a replacement water supply which is of adequate quality and quantity for drinking, bathing, cooking and washing. Owners and operators shall maintain the replacement water supply until an alternate water supply sufficient for all domestic purposes is available.

E. Owners and operators shall identify the depth, location, composition and construction of all underground utilities including water lines, sewer lines, communication cables, electric lines, and natural gas lines within the area of the release to assess the susceptibility of these utilities to permeation by contaminants or deterioration caused by contaminants. Owners and operators shall notify the utility owner that the release has occurred and obtain permission to perform a site check of the utilities or other subsurface structures most likely to be contaminated by the release to determine whether petroleum products or vapors are present.

F. Owners and operators shall complete an investigation to determine whether potentially explosive or harmful vapors are present in any building, utility corridor, basement, or other surface or subsurface structure on or adjacent to the release site.

(1) This investigation shall include testing for vapors using the following:

(a) a combustible gas indicator or equivalent instrument calibrated according to the manufacturer's instructions to test for potentially explosive levels of petroleum hydrocarbon vapors and

(b) a photoionization detector, flame ionization detector or another method approved by the department calibrated according to the manufacturer's instructions to test for potentially harmful petroleum hydrocarbon vapors.

(2) In the event owners and operators discover actual or potentially explosive levels of petroleum hydrocarbon vapors or potentially harmful petroleum hydrocarbon vapors reading greater than five whole units above ambient concentrations or greater than 20 percent of the lower explosive limit (LEL) in any structure in the vicinity of the release site, owners and operators shall confirm and, if necessary, take immediate action to mitigate the vapor hazard. Within seven days of the discovery of the vapors, owners and operators shall install and place into operation a vapor mitigation system capable of reducing petroleum hydrocarbon vapors to safe levels within the shortest reasonable time. The vapor mitigation system shall be designed by and constructed under the direct, responsible, supervisory control of a professional engineer, when required by the department.

(a) Once a vapor mitigation system has been installed, owners and operators shall monitor and report in writing to the department the levels of potentially explosive or harmful petroleum hydrocarbon vapors in the affected structures weekly for the first month and monthly thereafter unless a different monitoring schedule is approved in writing by the department. This monitoring shall be performed in accordance with Subparagraphs (a) and (b) of Paragraph (1) of this subsection.

(b) Within 30 days after the vapor mitigation system has been in operation for three months, owners and operators shall submit to the department a written summary report containing the monitoring results. The department may direct the owner and operator to modify the vapor mitigation system as necessary to reduce petroleum hydrocarbon vapors to safe levels. Owners and operators shall submit monitoring results to the department at three-month intervals until operation of the vapor mitigation system is discontinued in accordance with this section.

(3) Owners and operators shall continue to operate the vapor mitigation system until the results of three consecutive monthly monitoring events indicate the following:

(a) levels of potentially explosive petroleum hydrocarbon vapors are less than 20 percent LEL and

(b) levels of potentially harmful petroleum hydrocarbon vapors are less than or equal to five whole instrument units above ambient levels in any structure in the vicinity of the release site when measured as required in Subparagraphs (a) and (b) of Paragraph (1) of this subsection.

(4) When operation of a vapor mitigation system is discontinued, owners and operators shall monitor the vapor levels in the structure weekly for the first month and monthly thereafter until one calendar year has passed. If during this period the levels exceed those set forth in Subparagraphs (a) and (b) of Paragraph (3) of this subsection, owners and operators shall notify the department and take the necessary corrective action, as directed by the department.

G. Owners and operators shall remove any exposed petroleum products related to the release and mitigate any related immediate fire and safety hazards as soon as possible, but in no case later than 72 hours after the confirmation or other identification of the release.

[20.5.12.1204 NMAC - Rp, 20 NMAC 5.12.1204, 8/15/03]

#### 20.5.12.1205 MINIMUM SITE ASSESSMENT, 72-HOUR AND 14-DAY REPORTS:

A. Owners and operators shall make an oral report to the department summarizing the abatement procedures undertaken and the results of action taken under 20.5.12.1203 and 20.5.12.1204 NMAC within 72 hours of the reporting of a release or reporting of the confirmation of a suspected release pursuant to 20.5.7 NMAC.

B. Owners and operators shall submit a written report to the department within 14 days along with the written notice required under 20.5.7 NMAC. This report shall summarize all the work performed pursuant to 20.5.12.1203 and 20.5.12.1204 NMAC and shall include the following information:

(1) a map based on a United States Geologic Survey topographic map showing locations of actual and potential receptors, including, but not limited to, private and public water supplies identified pursuant to Subsection A of 20.5.12.1204 NMAC. Owners and operators shall draw two concentric circles, at 1,000 feet and at one mile radii from the center of the release, and shall also show on the map all surface water courses within a one mile radius of the site;

(2) information about any water supplies known or suspected to have been contaminated by the release;

(3) most likely direction of groundwater flow;

(4) a site plan map showing locations of underground utilities;

(5) information about underground utilities gathered in accordance with Subsection E of

20.5.12.1204 NMAC;

(6) soil borings, logs, and details of construction of all wells, if available;

(7) description of any actions taken to abate adverse effects;

(8) data from vapor monitoring performed in the vicinity of the site;

(9) description of any actions taken to abate potentially explosive or harmful vapors and any plans for further action;

(10) description of fire and safety hazards resulting from the release and actions taken to abate such hazards;

(11) description of current and past ownership of the property, storage tank systems, the substance stored in the system, age of tank and history of any tank removals;

(12) present land use, within 1,000 feet of the site; and

(13) records of tightness tests, repairs to the storage tank system, release detection and monitoring results.

[20.5.12.1205 NMAC - Rp, 20 NMAC 5.12.1205, 8/15/03]

#### 20.5.12.1206 NOTICE, SPLIT SAMPLES AND SAMPLING PROCEDURES:

A. Except for the 72-hour vapor check, owners and operators shall notify the department at least four days prior to the collection of any samples which are required pursuant to this part and upon which laboratory analyses are to be performed to allow the department an opportunity to be present at the collection of samples or to split samples.

B. Owners and operators shall notify the department at least four days prior to the decommissioning, destruction or abandonment of any wells.

C. Owners and operators shall collect, store and transport all samples necessary to comply with the requirements of this part in a manner consistent with the nature of the known or suspected contaminants and the

methods outlined in the bureau's Guidelines for Corrective Action in effect at the time the workplan for sampling was approved.

[20.5.12.1206 NMAC - Rp, 20 NMAC 5.12.1206, 8/15/03]

**20.5.12.1207 INTERIM REMOVAL OF NON-AQUEOUS PHASE LIQUID:**

A. Owners and operators shall assess the potential for remediation of non-aqueous phase liquid (NAPL) where there is a thickness of greater than one-eighth inch of NAPL on surface water, in any excavation pit, or in any well. Owners and operators shall submit the assessment to the department in accordance with a timeline approved or issued by the department or the timeline in Subsection D of 20.5.12.1200 NMAC.

B. The department may direct or approve interim removal of NAPL when such action is determined to be practical and necessary to protect public health, safety and welfare or the environment. In this event, owners and operators shall remove NAPL in accordance with a timeline approved or issued by the department or the timeline in Subsection D of Section 20.5.12.1200 NMAC.

C. Owners and operators shall remove NAPL in a manner that minimizes the spread of contamination into uncontaminated media.

D. Owners and operators shall store and dispose of NAPL in accordance with all flammable and combustible liquids codes approved by the state fire marshal or other local authority, state hazardous waste regulations (20.4.1 NMAC), and any other applicable laws or regulations.

E. Owners and operators shall report recovery and disposal of NAPL to the department in the format outlined in the bureau's Guidelines for Corrective Action in effect at the time the workplan for such recovery and disposal was approved.

[20.5.12.1207 NMAC - Rp, 20 NMAC 5.12.1207, 8/15/03]

**20.5.12.1208 INTERIM REMOVAL OF CONTAMINATED SOIL:**

A. Owners and operators shall remediate contaminated soil in accordance with 20.5.12.1202, 20.5.12.1213, 20.5.12.1215, 20.5.12.1217, 20.5.12.1219 and 20.5.12.1227 NMAC, unless directed or approved by the department to remove and treat contaminated soil in accordance with this section.

(1) The department may direct or approve interim removal of contaminated soil when such action is determined to be practical and necessary to protect public health, safety and welfare or the environment.

(2) Under this section, owners and operators shall excavate, treat and dispose of contaminated soil using methods approved by the department, in compliance with local laws and regulations, and under a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC.

(3) The department shall approve the vertical and horizontal extent of soil to be excavated.

B. When treating or temporarily storing soil on site, owners and operators shall:

(1) For treatment on site, spread soil in a six-inch layer over an impervious liner or other surface approved by the department to prevent infiltration to groundwater and place the layer of soil on level ground and berm to prevent runoff from contaminating other soil or surface water;

(2) For temporary storage, place the soil in a secure, bermed area on an impervious liner or surface or in a secured and properly labeled container, as approved by the department; and

(3) Handle soil in a manner that does not contaminate groundwater, surface water or other uncontaminated soil or does not create or cause a public nuisance or threat to human health, safety and welfare or the environment.

C. When contaminated soil is taken off site, owners and operators shall provide the department with the following information within 14 days of removal of the soil from the site:

(1) written documentation of the type and concentration of contaminants, volume and weight of soil, method of treatment, date transported, and location of the site of disposal or treatment;

(2) a signed, written statement by the owner of the treatment or disposal site describing the location of the site and expressly accepting the contaminated soil; and

(3) if contaminated soil is taken to a permitted solid waste facility, a manifest signed by the generator, transporter and the owner or operator of the solid waste facility.

D. Remediation shall be considered complete when the requirements in 20.5.12.1233 NMAC are met.

E. In accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC, owners and operators shall submit to the department a report describing the removal and treatment of contaminated soil. The report shall conform to the bureau's Guidelines for Corrective Action.

(1) The report shall describe the soil removal action and its effectiveness, including volumes removed.

(2) Owners and operators shall submit the report within 30 days of the soil removal action.  
[20.5.12.1208 NMAC - Rp, 20 NMAC 5.12.1208, 8/15/03]

20.5.12.1209 MINIMUM SITE ASSESSMENT, PRELIMINARY INVESTIGATION:

A. A preliminary investigation is not required when owners and operators can demonstrate that groundwater has not been contaminated and one of the following two conditions apply:

- (1) the release is remediated within 72 hours in accordance with this part; or
- (2) the release is permanently contained within the UST excavation area or the AST containment system.

B. Owners and operators shall conduct a preliminary investigation in accordance with this subsection and under a timeline approved or issued by the department or the timeline in Subsection D of 20.5.12.1200 NMAC. The preliminary investigation shall determine the following for use in development of a site conceptual exposure scenario and the tier one evaluation:

- (1) if not previously identified and reported under 20.5.12.1205 NMAC, the source of contamination, the contaminants of concern, the media of concern, current receptors, potential future receptors, current and anticipated future use of property, complete and incomplete exposure pathways, and routes of exposure;
- (2) the horizontal and vertical extent and magnitude of soil contamination in the vadose zone;
  - (a) Conduct a soil boring survey by advancing a continuously cored soil boring at each area of release where soil contamination is most likely to be encountered unless otherwise directed by the department. The initial incident report and a soil vapor survey may be used in locating these areas. Owners and operators shall advance at least one of the borings to the water table or, with approval from the department, to a depth of 50 feet below the depth at which measured levels of contaminants in soil are no longer detectable by laboratory analysis, and hydrocarbon vapor concentrations, as determined with a field instrument, are less than 100 whole instrument units.
  - (b) Advance at least four additional soil borings to characterize the release within property boundaries by soil sample points. Borings shall be completed to the depth at which contaminants in soil are no longer detectable by laboratory analysis, and hydrocarbon vapor concentrations, as determined with a field instrument, are less than 100 whole instruments units. If the soil borings indicate that contaminated soil extends beyond the boundary of the property on which the storage tank system is located, owners and operators shall advance soil borings at locations within ten feet of the boundary of the property on which the storage tank system is located.
  - (c) Assess and record at five-foot intervals field estimates of concentrations of petroleum hydrocarbons in the soil borings and select and prepare samples for laboratory analysis in accordance with the procedures contained in the bureau's Guidelines for Corrective Action in effect when the workplan was approved.
  - (d) Gather field data for soil classification, determining and recording color, grain size, texture, description of lithification, plasticity and clay content.
  - (e) From samples taken from an uncontaminated area of the vadose zone, determine in the laboratory soil bulk density (g/cc), soil moisture content (percent by volume), and effective porosity, and fraction organic carbon content (percent by volume).
  - (f) Record the horizontal and vertical extent of contaminant saturated soil as defined in

20.5.1.7 NMAC.

(3) whether groundwater or surface water has been contaminated above standards or whether a significant potential for groundwater or surface water contamination is present;

(a) determine whether the release has contaminated groundwater by installing at least three groundwater monitoring wells at locations where the results of the soil boring survey conducted pursuant to this section indicate that groundwater may be contaminated, unless otherwise approved by the department.

- (i) owners and operators shall place three of the monitoring wells to form a triangle;
- (ii) owners and operators shall install at least one monitoring well on site in the area of highest contamination as determined by the soil borings installed in accordance with the initial incident report and other relevant information.

(iii) owners and operators shall install at least one of the other monitoring wells in the anticipated down-gradient direction from the area of highest contamination.

(iv) owners and operators shall construct wells in accordance with the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved.

(v) owners and operators shall survey the wells to United States Geological Survey standards or equivalent, as described in the bureau's Guidelines for Corrective Action and using a licensed surveyor, unless otherwise directed or approved by the department;

(b) determine the approximate direction and gradient of groundwater flow.

(c) inspect all monitoring wells for the presence of NAPL using gasoline-finding paste, an electronic interface probe, a clear bailer or other method approved by the department. If NAPL is present in any well, owners and operators shall measure the apparent thickness of the layer, delimit its horizontal extent, and initiate recovery procedures in accordance with 20.5.12.1207 NMAC; and

(d) sample each monitoring well and analyze the sample for contaminants of concern and in accordance with the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved.

(4) whether immediate mitigation procedures are warranted; and

(5) whether other hazardous conditions exist as a result of the release if not previously identified in accordance with 20.5.12.1204 NMAC, which owners and operators shall determine by:

(a) identifying the location and depth of underground utilities and other subsurface structures on or adjacent to the site not identified earlier in accordance with Subsection E of 20.5.12.1204 NMAC;

(b) checking for the presence of vapors in accordance with 20.5.12.1204 and 20.5.12.1209 NMAC; and

(c) identifying all other hazards and potential threats to public health, safety and welfare and the environment which may exist as a result of the release.

C. If the horizontal and vertical extent of contamination extend beyond the boundaries of the property where the release originated, owners and operators shall conduct a secondary investigation in accordance with 20.5.12.1211 NMAC.

D. When the horizontal and vertical extent and magnitude of contamination from the release have been characterized, owners and operators shall perform a tier one evaluation as outlined in 20.5.12.1202 and 20.5.12.1212 NMAC.

[20.5.12.1209 NMAC - Rp, 20 NMAC 5.12.1209, 8/15/03]

#### 20.5.12.1210 MINIMUM SITE ASSESSMENT, PRELIMINARY INVESTIGATION REPORT:

A. Owners and operators shall submit a written report of the preliminary investigation and other requirements of the minimum site assessment as defined in 20.5.1.7 NMAC in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC. The report shall include the information gathered under 20.5.12.1203, 20.5.12.1204, 20.5.12.1205 and 20.5.12.1209 NMAC and shall conform to the requirements of the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved.

B. Owners and operators shall attach a statement signed by an authorized representative of the qualified firm preparing the report for the owner or operator attesting to the veracity of the information submitted in the report and attached documents.

C. The department shall review the report and notify owners and operators of any inadequacies in the report within 90 days. Owners and operators shall, in accordance with a timeline issued or approved by the department or the time line in Subsection D of 20.5.12.1200 NMAC, correct the report and resubmit it to the department for review and written approval. If the revised report does not conform to the Minimum Site Assessment, Preliminary Investigation Report format as described in the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved, the owner and operator shall be determined not to have conducted a minimum site assessment for the purposes of NMSA 1978, Section 74-6B-8.B(1)(c). The department's failure to review or to comment on this report shall not relieve the owner and operator of their responsibilities under this part or the law.

D. Owners and operators shall comply with the requirements of any local government which has designated a wellhead/source water protection area that includes the area of the release.

E. Owners and operators shall provide notice that includes the contaminants identified, as well as the horizontal and vertical extent of those contaminants, to all property owners within the horizontal extent of contamination.

[20.5.12.1210 NMAC - Rp, 20 NMAC 5.12.1210, 8/15/03]

#### 20.5.12.1211 SECONDARY INVESTIGATION:



A. Owners and operators shall perform a secondary investigation in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC when the owner, operator or the department makes at least one of the following determinations about the site:

(1) the owner or operator has not defined the horizontal and vertical extent and magnitude of contamination in all media; or

(2) the release otherwise threatens public health, safety and welfare or the environment.

B. The secondary investigation shall determine the following:

(1) the horizontal and vertical extent and magnitude of soil contamination both on and off site;

(2) the horizontal extent and magnitude of dissolved phase groundwater contamination both on and off site;

(3) the vertical extent and magnitude of dissolved phase groundwater contamination, when site conditions warrant;

(4) characteristics, extent, estimated volume and thickness of NAPL;

(5) the elevation of groundwater and surface water and the gradient, rate and direction of groundwater and surface water flow;

(6) rate and direction of contaminant migration;

(7) hydrologic properties of the contaminated portion of the aquifer including hydraulic conductivity, transmissivity and storativity. The department may require field verification of estimates made from literature;

(8) whether the aquifer is perched;

(9) whether the aquifer is confined or unconfined; and

(10) any other technical information requested by the department which is reasonably necessary to meet the requirements of this part.

[20.5.12.1211 NMAC - Rp, 20 NMAC 5.12.1211, 8/15/03]

#### 20.5.12.1212 SECONDARY INVESTIGATION REPORT:

A. Owners and operators shall submit a written report of the secondary investigation to the department in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC. The report shall include all information gathered under 20.5.12.1211 NMAC and shall conform to the requirements of the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved.

B. Owners and operators shall attach a statement signed by an authorized representative of the qualified firm preparing the report for the owner or operator attesting to the veracity of the information submitted in the report and attached documents.

C. The department shall review the report and notify owners and operators of any inadequacies in the report within 90 days. Owners and operators shall, in accordance with a timeline issued or approved by the department or the time line in Subsection D of 20.5.12.1200 NMAC, correct the report and resubmit it to the department for review and written approval. If the revised report does not meet the requirements of 20.5.12.1211 NMAC, the owner and operator will be in violation of this part until the inadequacies are corrected. The department's failure to review or to comment on the secondary investigation report shall not relieve the owner and operator of their responsibilities under this part or the law.

D. Owners and operators shall provide notice that includes the contaminants identified, as well as horizontal and vertical extent of those contaminants, to all property owners within the horizontal extent of contamination who were not previously notified in accordance with 20.5.12.1210 NMAC.

[20.5.12.1212 NMAC - Rp, 20 NMAC 5.12.1212, 8/15/03]

#### 20.5.12.1213 MINIMUM SITE ASSESSMENT, TIER ONE EVALUATION:

A. A tier one evaluation is required when owners and operators can demonstrate that groundwater has not been contaminated. The tier one evaluation is intended to determine whether soil contamination poses a threat to groundwater in the future.

B. When the horizontal and vertical extent and magnitude of the contamination from the release has been fully characterized in all media, owners and operators shall perform a tier one evaluation as described below and in the bureau's Guidelines for Corrective Action:

(1) Develop a site conceptual exposure scenario using data collected in accordance with 20.5.12.1202, 20.5.12.1205, 20.5.12.1209 and 20.5.12.1211 NMAC following the procedures outlined in the bureau's Guidelines for Corrective Action.

(2) For each receptor and each complete pathway identified in the site conceptual exposure scenario:  
(a) determine representative concentrations of contaminants of concern in soil samples from the preliminary and secondary investigations, in accordance with the bureau's Guidelines for Corrective Action, and compare these concentrations to risk-based screening levels (RBSLs), or

(b) compare concentrations of contaminants of concern in water samples to the applicable state WQCC and EIB water quality standards.

C. When representative concentrations of any contaminant of concern equal or exceed any RBSL for any exposure pathway, owners and operators shall perform a tier two evaluation unless otherwise directed by the department.

D. When concentrations are less than RBSLs and all requirements of 20.5.12.1233 NMAC have been met, owners and operators are eligible for "No Further Action" status for the release.  
[20.5.12.1213 NMAC - Rp, 20 NMAC 5.12.1213, 8/15/03]

#### 20.5.12.1214 MINIMUM SITE ASSESSMENT, TIER ONE EVALUATION REPORT:

A. Owners and operators shall submit a written report of the tier one evaluation in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC. The report shall conform to the requirements of the bureau's Guidelines for Corrective Action in effect at the time of workplan was approved.

B. Owners and operators shall attach a statement signed by an authorized representative of the qualified firm preparing the report for the owner or operator attesting to the veracity of the information submitted in the report and attached documents.

C. The department shall review the report and notify owners and operators of any inadequacies in the report within 90 days. Owners and operators shall, within 14 days of such notice of inadequacy, correct the report and resubmit it to the department for review and written approval. The department's failure to review or to comment on this report shall not relieve the owner and operator of their responsibilities under this part or the law.  
[20.5.12.1214 NMAC - Rp, 20 NMAC 5.12.1214, 8/15/03]

#### 20.5.12.1215 TIER TWO EVALUATION:

A. Owners and operators shall perform a tier two evaluation to determine site specific target levels (SSTLs) for soil for any complete exposure pathway where contaminants of concern exceed any RBSL, as described below and in the Guidelines for Corrective Action:

(1) Owners and operators shall modify the site conceptual exposure scenario as appropriate, using information obtained in the secondary investigation,

(2) For each receptor and complete pathway identified in the site conceptual exposure scenario:

(a) Compare representative concentration of contaminants of concern in soil samples from the preliminary and secondary investigations to SSTLs in soil;

(b) Compare concentrations of contaminants of concern in water samples from the preliminary and secondary investigations to the applicable WQCC and EIB water quality standards.

B. When representative concentrations of contaminants of concern equal or exceed any SSTL in soil for any complete exposure pathway, owners and operators shall remediate soil to the SSTLs in accordance with 20.5.12.1226 or 20.5.12.1233 NMAC or, if directed by the department, perform a tier three evaluation.

C. When concentrations of contaminants of concern equal or exceed any WQCC or EIB standard in ground or surface water, owners and operators shall remediate water to that standard in accordance with 20.5.12.1226 or 20.5.12.1233 NMAC.

D. When representative concentrations of all contaminants of concern are less than SSTLs and applicable WQCC or EIB standards and all requirements of 20.5.12.1234 NMAC have been met, the owner and operator are eligible for "No Further Action" status for the release.

E. When sufficient data are available, and concentrations of contaminants of concern equal or exceed any WQCC standard in groundwater, owners and operators may petition the WQCC for consideration of a variance approving alternative abatement standards in accordance with 20.5.12.1237 NMAC.

[20.5.12.1215 NMAC - Rp, 20 NMAC 5.12.1215, 8/15/03]

#### 20.5.12.1216 TIER TWO EVALUATION REPORT:

A. Owners and operators shall submit a written report of the tier two evaluation to the department in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200.

The report shall conform to the requirements of 20.5.12.1202 and 20.5.12.1215 NMAC and the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved.

B. Owners and operators shall attach a statement signed by an authorized representative of the qualified firm preparing the report for the owner or operator attesting to the veracity of the information submitted in the report and attached documents.

C. The department shall review the report and notify owners and operators in writing of any inadequacies in the report within 90 days. Owners and operators shall, in accordance with a timeline issued or approved by the department or the time line in Subsection D of 20.5.12.1200 NMAC, address the inadequacies identified and resubmit the report to the department for review and written approval. The department's failure to review or to comment on this report shall not relieve the owner and operator of their responsibilities under this part or the law.

[20.5.12.1216 NMAC - Rp, 20 NMAC 5.12.1216, 8/15/03]

#### 20.5.12.1217 TIER THREE EVALUATION:

A. In certain cases, including but not limited to complex hydrogeology or sensitive ecological receptors, the department may require a tier three evaluation, in place of or in addition to a tier two evaluation. Owners and operators shall perform the tier three evaluation in accordance with 20.5.12.1202 NMAC and the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved.

B. When representative concentrations exceed any SSTL determined in accordance with this section or exceed any WQCC or EIB standard for any contaminant of concern, owners and operators shall remediate the site to the SSTLs in soil and WQCC and EIB standards in groundwater and surface water. Owners and operators may petition the WQCC for consideration of a variance approving alternative abatement standards for groundwater in accordance with 20.5.12.1237 NMAC.

C. If representative concentrations do not exceed any SSTL for any contaminant of concern and groundwater and surface water are not contaminated in excess of WQCC and EIB, owners and operators may request "No Further Action" status in accordance with 20.5.12.1234 NMAC.

[20.5.12.1217 NMAC - Rp, 20 NMAC 5.12.1217, 8/15/03]

#### 20.5.12.1218 TIER THREE EVALUATION REPORT:

A. Owners and operators shall submit a written report of the tier three evaluation to the department in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC. The report shall conform to the requirements of 20.5.12.1202 and 20.5.12.1217 NMAC and the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved.

B. Owners and operators shall attach a statement signed by an authorized representative of the qualified firm preparing the report for the owner or operator attesting to the veracity of the information submitted in the report and attached documents.

C. The department shall review the report and notify owners and operators of any inadequacies in the report within 90 days. Owners and operators shall, in accordance with a timeline issued or approved by the department or the time line in Subsection D of 20.5.12.1200 NMAC, correct the report and resubmit it to the department for review and written approval. The department's failure to review or to comment on the report shall not relieve the owner and operator of their responsibilities under this part or the law.

[20.5.12.1218 NMAC - Rp, 20 NMAC 5.12.1218, 8/15/03]

20.5.12.1219 CORRECTIVE ACTION REQUIREMENTS FOR TOTAL PETROLEUM HYDROCARBONS (TPH): In addition to comparing representative soil concentrations for all contaminants of concern to risk-based screening levels (RBSLs) and site-specific target levels (SSTLs) and concentrations in groundwater and surface water to applicable WQCC and EIB standards, in accordance with 20.5.12.1202, 20.5.12.1213, 20.5.12.1215 and 20.5.12.1217 NMAC, owners and operators shall mitigate, remediate, or remove TPH contamination in soil and groundwater, when directed by the department based upon a determination by the department that the TPH contamination adversely affects public health, safety and welfare or the environment.

[20.5.12.1219 NMAC - Rp, 20 NMAC 5.12.1219, 8/15/03]

#### 20.5.12.1220 MONITORED NATURAL ATTENUATION:

A. When directed or approved by the department, owners and operators shall submit a plan for monitored natural attenuation to the department if any of the following conditions have been identified at the site:

(1) concentrations of contaminants of concern exceed site-specific target levels (SSTLs) in soil or WQCC or EIB standards in groundwater or surface water; or

(2) other conditions exist as a result of the release which threaten public health, safety and welfare or the environment, as determined by the department.

B. Owners and operators shall submit the monitored natural attenuation plan in accordance with the bureau's Guidelines for Corrective Action and in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC.

C. The intent of the monitored natural attenuation plan is to provide a written description of the methodology proposed and demonstrate how the plan will achieve target concentrations in a manner that is practicable, cost effective, and protective of public health, safety and welfare and the environment. The content of the monitored natural attenuation plan, at a minimum and as appropriate, shall include:

(1) a site plan drawn to scale of no less than one inch equals 40 feet, showing all existing buildings, structures, paved areas, utilities, buried utility trenches, former and existing petroleum storage tanks and ancillary equipment, other sources of contamination, extent and magnitude of contamination, and existing and proposed monitoring wells;

(2) cross sections showing the source contaminant mass in relation to the groundwater contamination;

(3) a topographic map of appropriate scale showing the site in relation to existing and reasonably foreseeable future receptors;

(4) concentration contour maps depicting the extent and magnitude of the contaminants of concern and the designated monitoring wells in relation to the site;

(5) a schematic drawing depicting the construction details including lithology and screen intervals for the designated monitoring wells;

(6) the justification for selecting the designated monitoring wells;

(7) the recommended approach to monitoring including an implementation and monitoring schedule, the analytical methods, and the justification for the recommendation;

(8) an estimation of the time necessary for achieving target concentrations, and a demonstration through calculations or other appropriate means which supports this schedule;

(9) a contingency plan in case of a change in site conditions that threatens public health, safety and welfare or the environment; and

(10) public notice; and

(a) Owners and operators shall publish a legal notice of the submission or planned submission of the monitored natural attenuation plan at least twice in a paper of general circulation in the county in which soil or water has been contaminated by the release. The first notice shall appear within one week of, but not later than, the day of submission of the monitored natural attenuation plan to the department. The second publication of this notice shall occur no later than seven days after the date the monitored natural attenuation plan is submitted to the department, and owners and operators shall submit two certified Affidavits of Publication from the newspaper to the department within 21 days after the date the monitored natural attenuation plan is submitted.

(b) The notice shall contain the information specified in this section and in the bureau's Guidelines for Corrective Action including the following:

(i) a statement that a monitored natural attenuation plan has been submitted to the department proposing actions to monitor natural attenuation of a release of petroleum products;

(ii) the name and physical address of the site at which the release occurred and the names and physical addresses of properties where any part of contaminant plume is located, using adequate identification of the properties, including street addresses if applicable;

(iii) a statement that a copy of the monitored natural attenuation plan and all data and modeling related to the monitored natural attenuation plan, if applicable, can be viewed at the department's main office and at the department's field office for the area in which the release occurred; and

(iv) a statement that public comments on the plan must be delivered within twenty one (21) days of the publication of the second notice, to the Petroleum Storage Tank Bureau, New Mexico Environment Department, 2044 Galisteo Street, Santa Fe, New Mexico 87504, or a district office if approved by the department, and to the Secretary of the Environment Department.

(c) Within seven days of the date a monitored natural attenuation plan is submitted to the department, owners and operators shall also mail by certified mail a copy of the legal notice to adjacent property owners.

(d) Owners and operators shall post a notice of the submission of the monitored natural attenuation plan at the release site within seven days of the submission of the monitored natural attenuation plan. The notice shall contain the information specified in this subsection and the bureau's Guidelines for Corrective Action and shall be at least 8.5 inches by 11 inches in size and prominently displayed in a location where it is likely to be seen by members of the public for a continuous period until the monitored natural attenuation plan is approved and implemented. Public comments must be received by the department within 21 days of the date of the second publication of the public notice.

(11) other requirements as directed by the department.

[20.5.12.1220 NMAC - N, 8/15/03]

20.5.12.1221 REVIEW AND APPROVAL OF MONITORED NATURAL ATTENUATION PLAN:

A. Within 60 days of receipt of the monitored natural attenuation plan and after the public comment period has ended, the department shall review the plan and shall either approve the plan or notify the owner and operator in writing of the deficiencies of the plan. If the secretary determines that a decision on the monitored natural attenuation plan must be postponed due to significant comments from the public, the department must notify the owner and operator within 30 days of such a postponement, and may extend its review period for a period not to exceed 60 days unless otherwise provided in Subsection D of this section. All deadlines calculated from the end of the review period will be adjusted to reflect any extension.

B. The department may approve a monitored natural attenuation plan and impose reasonable conditions.

C. If the department determines that the monitored natural attenuation plan is inadequate, owners and operators shall modify the plan to correct the deficiencies specified by the department and re-submit it within the time period specified by the department.

D. The department may provide notice of the submission of the monitored natural attenuation plan to persons other than the owner and operator and provide for public participation in the review process as the department deems appropriate or when there is significant public interest. In the event an informal public meeting, public hearing or other form of public participation is conducted, the department may postpone its decision on the monitored natural attenuation plan for more than 60 days as required in Subsection A of this section until after a public hearing or meeting is held and a determination is made. Any public hearing or meeting that is held due to significant public interest should be held within 60 days of determining there is significant public interest.

[20.5.12.1221 NMAC - N, 8/15/03]

20.5.12.1222 MONITORED NATURAL ATTENUATION PLAN IMPLEMENTATION:

A. Owners and operators shall implement the approved monitored natural attenuation plan in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC.

B. Owners and operators shall monitor the contamination until the natural attenuation is determined to be complete pursuant to this part unless otherwise approved by the department;

[20.5.12.1222 NMAC - N, 8/15/03]

20.5.12.1223 REPORTS ON THE MONITORED NATURAL ATTENUATION:

A. Owners and operators shall submit written reports to the department on the progress of the contamination decay by monitored natural attenuation. The reports shall be submitted annually unless otherwise directed or approved by the department and shall document all work performed during the preceding interval and shall include at a minimum the following information, as appropriate:

(1) a site plan drawn to scale of no less than one inch equals 40 feet, showing all existing buildings, structures, paved areas, utilities, buried utility trenches, former and existing petroleum storage tanks and ancillary equipment, other sources of contamination, extent and magnitude of contamination, and existing and proposed monitoring wells;

(2) a topographic map of appropriate scale showing the site in relation to existing and reasonably foreseeable future receptors;

(3) concentration contour maps depicting the extent and magnitude of the contaminants of concern and the designated monitoring wells in relation to the site;

(4) tabulation of the current and historical results of all water quality analyses and water elevation data;

(5) graphs of appropriate scale of the current and historical water quality analyses and water elevation data versus time;

(6) data evaluation and interpretation, and recommendations; and

(7) other information required by the department.

B. Owners and operators shall submit the report within 30 days of the end of the reporting period or as otherwise approved by the department.

[20.5.12.1223 NMAC - N, 8/15/03]

20.5.12.1224 ANNUAL EVALUATION OF MONITORED NATURAL ATTENUATION:

A. Owners and operators shall evaluate the effectiveness of the monitored natural attenuation approach at the end of each year of monitoring and submit the evaluation to the department for review.

B. When the department determines that the approach is not effectively mitigating contamination according to the identified risks to public health, safety and welfare or the environment, owners and operators shall propose an alternative approach or change in the existing monitored natural attenuation plan within 30 days of the department's determination of ineffectiveness. Within 30 days of the department's approval, owners and operators shall implement the approved changes.

C. After implementation of any modification, owners and operators shall repeat annually the evaluation process described in this section.

[20.5.12.1224 NMAC - N, 8/15/03]

20.5.12.1225 MODIFICATION OF MONITORED NATURAL ATTENUATION PLAN:

A. Owners and operators may petition the department to approve a modification of the monitored natural attenuation plan for good cause.

B. A monitored natural attenuation plan may only be modified if the modification is approved by the department and if such modification provides adequate protection of public health, safety and welfare and the environment and the owner or operator complies with the public notice requirements of 20.5.12.1220 NMAC.

[20.5.12.1225 NMAC - N, 8/15/03]

20.5.12.1226 COMPLETION OF MONITORED NATURAL ATTENUATION:

A. Natural attenuation shall be considered complete when all of the following criteria are met:

(1) no layer of NAPL greater than one-eighth inch in thickness is present on the water table or in any of the wells;

(2) the following EIB standard for methyl tertiary butyl ether has been met in groundwater and surface water: methyl tertiary butyl ether (MTBE), dissolved concentration: 0.1 mg/L;

(3) all applicable site-specific target levels or risk-based screening levels in soil and WQCC and EIB standards have been achieved.

(a) The applicable standards shall be achieved concurrently at all compliance wells for at least eight consecutive quarters unless otherwise approved by the department.

(b) For verification that soil has reached target concentrations, owners and operators shall install at least four soil borings, at least three of which are distributed throughout the previously most contaminated portion of the vadose zone, unless otherwise approved by the department.

(4) corrective action requirements for total petroleum hydrocarbons determined in accordance with 20.5.12.1219 NMAC have been met; and

(5) any other conditions which threatened public health, safety and welfare or the environment have been abated.

B. If any of the conditions of Paragraphs (1) through (5) of Subsection A of this section are not met, the department may require owners and operators to perform additional remediation.

C. If any of the target concentrations set forth or determined in accordance with this part are not met, owners and operators may request a determination by the department of technical infeasibility, may petition the New Mexico water quality control commission for a variance approving an alternative abatement standard, or may request approval by the department of a demonstration of equivalent protection, in accordance with 20.5.12.1237 NMAC, for the MTBE standard in Subsection A of this section.

D. Termination of monitored natural attenuation in accordance with this section does not relieve the owner and operator of any other liability or responsibility they may have under this part or any other federal, state or local law or regulation.

E. Following department approval, and with 30 days notice unless otherwise approved by the department, owners and operators shall properly abandon wells that are no longer needed for monitoring, in accordance with law and using methods described in the bureau's Guidelines for Corrective Action which were in effect at the time the workplan was approved.  
[20.5.12.1226 NMAC - N, 8/15/03]

20.5.12.1227 REMEDIATION PLAN:

A. When directed or approved by the department, owners and operators shall submit both a conceptual and a final remediation plan to the department if any of the following conditions have been identified at the site:

- (1) a thickness of greater than one-eighth inch of NAPL is present on the surface of the water, including in any excavation pit, or in any well;
- (2) contaminant saturated soil is present;
- (3) concentrations of contaminants of concern exceed site-specific target levels (SSTLs) in soil or WQCC or EIB standards in groundwater or surface water;
- (4) total petroleum hydrocarbons in soil meet the criteria outlined in 20.5.12.1219 NMAC; or
- (5) other conditions exist as a result of the release which threaten public health, safety and welfare or the environment, as determined by the department.

B. All remediation plans shall include but not be limited to methods to mitigate, remove or otherwise remediate the source areas.

C. Owners and operators shall submit the conceptual remediation plan in accordance with the bureau's Guidelines for Corrective Action and in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC.

(1) The intent of the conceptual remediation plan is to provide a written description of all of the methodologies proposed and demonstrate how the plan will achieve target concentrations and other goals of remedial action in a manner that is practicable, cost effective, and protective of public health, safety and welfare and the environment. Owners and operators shall obtain department approval for the conceptual remediation plan before developing the final remediation plan.

- (2) The content of the conceptual remediation plan, at a minimum and as appropriate, shall include:
- (a) the recommended approach to remediation and justification for the recommendation;
  - (b) a clear description of the goals of remediation and the target concentrations to be met in each medium;
  - (c) a narrative description of the proposed methodologies including a comparative economic analysis and time lines for achieving goals of remediation;
  - (d) a cost estimate of implementation including installation, operation and maintenance, and monitoring;
  - (e) a schematic diagram of the proposed remediation system and a narrative description of its operation;
  - (f) a plan view, to scale, of the site showing locations of the proposed equipment in relation to the site's physical features and contaminant plumes; and
  - (g) a description of how the approach will achieve target concentrations and other goals of remediation; and
  - (h) a description of additional data required to support the conceptual remediation plan and design of the final plan and how it will be collected. This may include but is not limited to pilot testing and evaluation of contaminant plume dynamics.

D. Following department approval of the conceptual remediation plan, owners and operators shall develop a final remediation plan in accordance with this section and the bureau's Guidelines for Corrective Action in effect at the time the workplan was approved and shall submit three copies of the final remediation plan to the department in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC.

E. The design and engineering of any final remediation plan that includes mechanical or electrical equipment, engineered fill, pinning, shoring or slope stability analysis shall be the responsibility of a professional engineer as defined in 20.5.1.7 .NMAC. All plans and drawings required pursuant to this section, unless otherwise approved by the department, shall be signed and sealed by a professional engineer.

F. In order to eliminate the potential to emit regulated substances to the environment, all engineered remediation systems shall be designed, constructed and operated such that malfunction or failure of any integral

component results in automatic shut down of the entire system. Integral components include but are not limited to pumps, blowers, oil-water separators, oxidizer systems, air strippers, filtration systems and computers.

G. All final remediation plans shall, at a minimum, include all of the following:

- (1) goals of remediation and target concentrations to be achieved in each medium;
- (2) a site plan drawn to scale of no less than one inch equals 40 feet, showing all existing buildings, structures, paved areas, utilities, buried utility trenches, former and existing storage tanks, other sources of contamination, extent and magnitude of contamination, and existing and proposed monitoring wells;
- (3) a cross section showing contaminant mass in relation to the remediation system and a topographic map of appropriate scale showing the site in relation to existing and reasonably foreseeable future receptors;
- (4) an implementation schedule;
- (5) a schedule for remediation of the source areas, for protection of receptors identified in Paragraph (1) of this subsection, and for achieving target concentrations, and a demonstration through calculations or other appropriate means which supports this schedule;
- (6) a design and schedule for a system optimization that meets the requirements of 20.5.12.1231 NMAC;
- (7) a contingency plan in case of a change in site conditions that threatens public health, safety and welfare or the environment;
- (8) copies of all permits, permit applications, and property access agreements required to initiate remediation, including, if necessary, permits required by the state engineer, permits for discharge to groundwater or a waste water treatment plant, permits for air emissions or a surface water National Pollution Discharge Elimination System (NPDES) permit;
- (9) public notice;
  - (a) Owners and operators shall publish a legal notice of the submission or planned submission of the final remediation plan at least twice in a paper of general circulation in the county in which soil or water has been contaminated by the release. The first notice shall appear within one week of, but not later than, the day of submission of the final remediation plan to the department. The second publication of this notice shall occur no later than seven days after the date the remediation plan is submitted to the department, and owners and operators shall submit two certified Affidavits of Publication from the newspaper to the department within 21 days after the date the final remediation plan is submitted.
  - (b) The notice shall contain the information specified in this section and in the bureau's Guidelines for Corrective Action including the following:
    - (i) a statement that a remediation plan has been submitted to the department proposing actions to remediate a release of petroleum products;
    - (ii) the name and physical address of the site at which the release occurred and the names and physical addresses of properties where any part of the remediation system will be located, using adequate identification of the properties, including street addresses if applicable;
    - (iii) a statement that a copy of the remediation plan and all data and modeling related to the remediation plan, if applicable, can be viewed at the department's main office and at the department's field office for the area in which the release occurred; and
    - (iv) a statement that public comments on the plan must be delivered, within twenty one (21) days of the publication of the second notice, to the Petroleum Storage Tank Bureau, New Mexico Environment Department, 2044 Galisteo Street, Santa Fe, New Mexico 87504, or a district office if approved by the department, and to the secretary of the environment department.
  - (c) Within seven days of the date a remediation plan is submitted to the department, owners and operators shall also mail by certified mail a copy of the legal notice to adjacent property owners.
  - (d) Owners and operators shall post a notice of the submission of the remediation plan at the release site within seven days of the submission of the remediation plan. The notice shall contain the information specified in this subsection and the bureau's Guidelines for Corrective Action and shall be at least 8.5 inches by 11 inches in size and prominently displayed in a location where it is likely to be seen by members of the public for a continuous period until the remediation plan is approved and implemented. Public comments must be received by the department within 21 days of the date of the second publication of the public notice.
- (10) for sites where contaminated media are being removed, a description of the ultimate disposal site of contaminated media, location of excavation and trenching, and method of limiting access by pedestrian and vehicular traffic; and
- (11) other requirements as directed by the department.



H. In addition to the requirements of Subsection F of this section, all final remediation plans which include mechanical or electrical equipment, engineered fill, pinning, shoring or slope stability analysis shall include all of the following:

- (1) unless otherwise approved by the department, a complete and definitive engineering design for a mechanical, electrical, or constructed system, including drawings, plans, diagrams and specifications which are signed and sealed by a professional engineer;
  - (2) process and instrumentation diagrams;
  - (3) mechanical arrangement plans and elevations, drawn to scale, showing proposed wells, manifolds, piping details, instrumentation and sampling ports;
  - (4) details of vapor or fluid extraction or injection wells, as appropriate, including screen length and placement in relation to ground surface, normal and low water table elevations and geologic strata, screen slot size, depths and specifications of the filter pack and seal, and drilling method;
  - (5) equipment and parts list and specifications including a spare parts list, performance requirements, maintenance requirements and schedule;
  - (6) electric power requirements including a one-line diagram and schematics;
  - (7) operation and maintenance commitments and schedules for all facets of the remediation system;
- and
- (8) all other plans, diagrams and specifications that are necessary to properly construct and operate the remediation system in accordance with the remediation plan including but not limited to requirements for:
    - (a) trenching and protection from traffic;
    - (b) concrete repair and replacement;
    - (c) protection of equipment from weather and vandalism;
    - (d) restoration of property; and
    - (e) location and protection of underground utilities.

[20.5.12.1227 NMAC - Rp, 20 NMAC 5.12.1220, 8/15/03]

#### 20.5.12.1228 REVIEW AND APPROVAL OF FINAL REMEDIATION PLAN:

A. Within 60 days of receipt of the final remediation plan and after the public comment period has ended, the department shall review the plan and shall either approve the plan or notify the owner and operator in writing of the deficiencies of the plan. If the secretary determines that a decision on the remediation plan must be postponed due to significant comments from the public, the department must notify the owner and operator within 30 days of such a postponement, and may extend its review period for a period not to exceed 60 days unless otherwise provided in Subsection D of this section. All deadlines calculated from the end of the review period will be adjusted to reflect any extension.

B. The department may approve a final remediation plan and impose reasonable conditions.

C. If the department determines that the final remediation plan is inadequate, owners and operators shall modify the plan to correct the deficiencies specified by the department and re-submit it within the time period specified by the department.

D. The department may provide notice of the submission of the remediation plan to persons other than the owner and operator and provide for public participation in the review process as the department deems appropriate or when there is significant public interest. In the event an informal public meeting, public hearing or other form of public participation is conducted, the department may postpone its decision on the final remediation plan for more than 60 days as required in Subsection A of this section until after a public hearing or meeting is held and a determination is made. Any public hearing or meeting that is held due to significant public interest should be held within 60 days of determining there is significant public interest.

[20.5.12.1228 NMAC - Rp, 20 NMAC 5.12.1221, 8/15/03]

#### 20.5.12.1229 IMPLEMENTATION OF FINAL REMEDIATION PLAN:

A. Owners and operators shall implement the approved, final remediation plan in accordance with a timeline issued or approved by the department or the timeline in Subsection D of 20.5.12.1200 NMAC. When applicable, owners and operators shall employ a professional engineer to ensure conformance with the final remediation plan including installation, commissioning and operation of the system.

B. When the remediation plan includes mechanical or electrical equipment, engineered fill, pinning, shoring or slope stability analysis:

- (1) conformance with the final remediation plan including installation, commissioning and operation of the system shall be performed under the supervision of a professional engineer;

(2) owners and operators shall operate the remediation system continuously until the remediation is terminated pursuant to this part unless otherwise approved by the department; and

(3) owners and operators shall report all interruptions of the remediation system of greater than 72 hours to the department.

C. Owners and operators shall obtain written approval prior to implementing any change to the department-approved engineering design.

D. Following installation and start-up of remediation system with electrical or mechanical components, engineered fill, pinning, shoring or slope stability analysis, owners and operators shall submit "as-built" drawings signed and sealed by the project professional engineer showing:

(1) any deviations from the drawings and specifications included in the final remediation plan;

(2) a tabulation of pertinent data including but not limited to flow rates, pressures, temperatures, and contaminant concentrations and groundwater elevations at start-up, and boring logs and well completion diagrams.

(3) an inventory of purchased equipment including serial number and purchase price.

[20.5.12.1229 NMAC - Rp, 20 NMAC 5.12.1222, 8/15/03]

#### 20.5.12.1230 QUARTERLY REPORTS ON THE REMEDIATION:

A. Owners and operators shall submit written reports to the department on the operation of the remediation system. The reports shall be quarterly unless otherwise approved by the department and shall document all work performed during the preceding interval and shall include the following information, as appropriate:

(1) tabulation of the current and historical results of all water quality analyses and water elevation data in accordance with the requirements of the bureau's Guidelines for Corrective Action;

(2) evaluation of the performance and efficiency of each aspect of the remediation;

(a) This evaluation and all adjustments to system operation shall be performed, as appropriate, under the direct, responsible, supervisory control of an authorized representative of the qualified firm or, when required, a professional engineer.

(b) Owners and operators shall submit evidence that the performance of the remediation meets the operating standards outlined in the final remediation plan.

(3) calculations verifying that the schedule is being met for source removal, protection of actual and potential receptors, and achievement of target concentrations. Owners and operators shall determine quarterly and cumulative contaminant mass reduction totals to date in pounds and gallons of contaminants and shall provide the supporting calculations and documentation;

(4) records of system operation, including details, periods of shut-down and equipment malfunctions; the maintenance procedures performed on the remediation system during the preceding quarter, including the names of the individuals performing the maintenance; and an operation and maintenance schedule for the next quarter;

(5) the amount of NAPL recovered, both cumulative and quarterly, and details of its disposal;

(6) effluent vapor concentrations over time;

(7) evaluation and recommendations for improving the performance of the system to achieve the goals of remediation; and

(8) other information required by the department.

B. Owners and operators shall submit the report within 30 days of the end of the reporting period or as otherwise approved by the department.

[20.5.12.1230 NMAC - Rp, 20 NMAC 5.12.1223, 8/15/03]

#### 20.5.12.1231 ANNUAL EVALUATION OF REMEDIATION:

A. Owners and operators shall evaluate the effectiveness of the approach to remediation at the end of each year of operation and submit the evaluation to the department for review.

B. When the department determines that the approach to remediation is not effectively remediating contamination according to the identified risks to public health, safety and welfare and the environment, owners and operators shall propose an alternative approach or change in the existing remediation plan within 30 days of the department's determination of ineffectiveness. Within 30 days of the department's approval, owners and operators shall implement the approved changes.

C. After implementation of any modification, owners and operators shall repeat annually the evaluation process described in this section until monitoring to verify completion of remediation in accordance with 20.5.12.1233 NMAC commences.

[20.5.12.1231 NMAC - Rp, 20 NMAC 5.12.1224, 8/15/03]

20.5.12.1232 MODIFICATION OF FINAL REMEDIATION PLAN:

A. Owners and operators may petition the department to approve a modification of the final remediation plan for good cause.

B. A remediation plan may only be modified if the modification is approved by the department, complies with applicable regulations, and provides adequate protection of public health, safety and welfare and the environment, and the owner and operator comply with the public notice requirements of 20.5.12.1227 NMAC.

[20.5.12.1232 NMAC - Rp, 20 NMAC 5.12.1225, 8/15/03]

20.5.12.1233 COMPLETION OF REMEDIATION:

A. Remediation shall be considered complete when all of the following criteria are met:

(1) no layer of NAPL greater than one-eighth inch in thickness is present on the water table or in any of the wells;

(2) the following EIB standard for methyl tertiary butyl ether has been met in groundwater and surface water: Methyl tertiary butyl ether (MTBE), dissolved concentration: 0.1 mg/L;

(3) all applicable site-specific target levels or risk-based screening levels in soil and WQCC and EIB standards have been achieved.

(a) All electrical and mechanical components of the remediation system shall remain shut down for the monitoring period described in this subsection.

(b) The department shall approve the designation of certain monitoring wells as compliance wells. The applicable standards shall be achieved concurrently at all compliance wells for at least eight consecutive quarters unless otherwise approved by the department.

(c) For verification of remediation of soil to target concentrations, owners and operators shall install at least four soil borings, at least three of which are distributed throughout the previously most contaminated portion of the vadose zone, unless otherwise approved by the department.

(4) corrective action requirements for total petroleum hydrocarbons determined in accordance with 20.5.12.1219 NMAC have been met; and

(5) any other conditions which threatened public health, safety and welfare or the environment have been abated or remediated.

B. If any of the conditions of Paragraphs (1) through (5) of Subsection A of this section are not met, the department may require owners and operators to perform additional remediation.

C. Notwithstanding the conditions in Subsection A of this section, owners and operators may continue to operate the mechanical and electrical components of the remediation system when it is effectively reducing contaminant concentrations, as determined and approved by the department.

D. If any of the target concentrations set forth or determined in accordance with this part are not met, owners and operators may request a determination by the department of technical infeasibility, may petition the New Mexico Water Quality Control Commission for a variance approving an alternative abatement standard, or may request approval by the department of a demonstration of equivalent protection, in accordance with 20.5.12.1237 NMAC, for the MTBE standard in Subsection A of this section.

E. Termination of remediation in accordance with this section does not relieve the owner and operator of any other liability or responsibility they may have under this part or any other federal, state or local law or regulation.

F. Following department approval, and with 30 days notice unless otherwise approved by the department, owners and operators shall decommission the electrical and mechanical components of the remediation system and properly abandon wells that are no longer needed for remediation or monitoring, in accordance with law and using methods described in the bureau's Guidelines for Corrective Action which were in effect at the time the workplan was approved.

[20.5.12.1233 NMAC - Rp, 20 NMAC 5.12.1226, 8/15/03]

20.5.12.1234 NO FURTHER ACTION STATUS:

A. Owners and operators shall receive approval of a request for "No Further Action" status for the release when all of the following conditions are met:

(1) groundwater and surface water contamination related to the release is less than or equal to WQCC and EIB standards, and where there had been groundwater contamination related to the release, the

applicable standards have been achieved concurrently at all compliance wells for at least eight consecutive quarters unless otherwise approved by the department;

(2) soil contamination is less than or equal to applicable RBSLs or SSTLs; and

(3) any other conditions which did threaten public health, safety and welfare or the environment have been adequately mitigated.

B. Owners and operators shall receive approval of a request for "No Further Action" status for the release when subsurface water does not meet the definition of "subsurface water" in 20.6.2.7 NMAC or is unprotected pursuant to Subsection A of 20.6.2.3101 NMAC, if NAPL and contaminant saturated soil have been adequately remediated in accordance with this part and any other conditions which threatened public health, safety and welfare or the environment have been adequately mitigated.

C. When all of the requirements of Subsection A are not met, owners and operators may seek to:

(1) demonstrate technical infeasibility to the satisfaction of the department and in accordance with 20.5.12.1235 NMAC; or

(2) receive approval of a variance for an alternative abatement standard from the WQCC for any of its groundwater standards and meet all WQCC variance conditions.

D. Any of the following may result in a reversal of "No Further Action" status:

(1) new information becomes available or circumstances arise indicating that an unacceptable threat to public health, safety and welfare or the environment exists; or

(2) change in use or reasonable foreseeable future use of land or resources, including a change from less sensitive land use to more sensitive land use, such as from commercial or industrial to residential, and including the drilling of water supply wells in the vicinity of remaining contamination.

[20.5.12.1234 NMAC - Rp, 20 NMAC 5.12.1227, 8/15/03]

#### 20.5.12.1235 DEMONSTRATION OF TECHNICAL INFEASIBILITY:

A. When owners and operators are unable to fully meet the target concentrations or other remediation criteria set forth in the final remediation plan or an approved modification of the plan, using cost-benefit justifiable technologies, and the concentrations of contaminants of concern are greater than the target concentrations and less than two times those target concentrations, owners and operators may propose to the department that compliance with the final remediation plan and all revised remediation plans is technically infeasible. Owners and operators shall make the demonstration of technical infeasibility in accordance with Subsection E of 20.6.2.4103 NMAC and this section.

B. Owners and operators may demonstrate technical infeasibility by a statistically valid extrapolation of the decrease in concentration of any of the contaminants of concern over a 20-year period, such that projected future reductions during that time would be less than 20 percent of the concentration of the contaminant of concern at the time the infeasibility proposal is prepared.

C. Owners and operators may demonstrate a statistically valid decrease with a minimum of eight consecutive quarters of monitoring, unless otherwise approved by the department, using the arithmetic mean sample result for each contaminant of concern in each compliance well. In no event shall technical infeasibility be considered unless the contamination level at the time of the proposal is less than or equal to two times the standard for that contaminant.

D. Electrical and mechanical components of the remediation system shall remain shut down for the monitoring period described in Subsection C of this section.

E. A qualified laboratory shall perform all sample analyses upon which technical infeasibility is to be determined.

[20.5.12.1235 NMAC - Rp, 20 NMAC 5.12.1228, 8/15/03]

#### 20.5.12.1236 REQUEST FOR EXTENSION OF TIME:

A. For good cause shown, the department may extend the time for complying with any deadline set forth in this part. The request shall specify the reason for the request, all actions taken to comply with the deadline and the period of time for which the extension is requested.

B. The department shall not grant an extension for more than 30 days at a time unless the department determines additional time is warranted. The department may place conditions on the extension.

C. Lack of diligence or failure of owners and operators to comply with these regulations shall be grounds for denying a request for an extension of time.

[20.5.12.1236 NMAC - Rp, 20 NMAC 5.12.1229, 8/15/03]

20.5.12.1237 DEMONSTRATION OF EQUIVALENT PROTECTION:

A. Except for the granting of a variance from WQCC standards by the WQCC and the approval of technical infeasibility by the department, the department may approve or disapprove, based upon the information provided, a demonstration of equivalent protection to any provision of this part whenever it is found by a preponderance of the evidence that the methods, technologies, operations and procedures used by owners and operators will, in fact, protect public health, safety and welfare and the environment to a degree which is equal to or greater than that which is provided by this part.

B. Except as expressly prohibited in Subsection A of this section, owners and operators may seek to demonstrate protection of public health, safety and welfare and the environment equivalent to that provided by any provision of this part by filing a written request with the department. The request shall include:

- (1) the names and addresses of the owner and operator of the storage tank system which caused the release;
- (2) the address or a description of the property at which the release occurred;
- (3) the specific provision of 20.5.12 NMAC for which an owner or operator wishes to demonstrate equivalent protection;
- (4) a description of the proposed methodologies, technologies, operations or procedures and a demonstration of how and why they will protect public health, safety and welfare and the environment to a degree which is equal to or greater than that which is provided by 20.5.12 NMAC; and
- (5) supporting documentation, data, and other pertinent information including technical, hydrogeological and engineering information as is deemed necessary by the department to review the request.

C. Owners and operators may petition the WQCC for a variance to its groundwater quality standards in accordance with Subsection F of 20.6.2.4103 NMAC and 20.1.3 NMAC. Owners and operators shall file the request for variance with the secretary and provide a copy to the Petroleum Storage Tank Bureau. Owners and operators shall prepare the petition in accordance with the bureau's Guidelines for Corrective Action. Review, approval, disapproval and other procedural requirements for any variance under this section shall conform with the requirements of Subsection F of 20.6.2.4103 NMAC and applicable laws.

D. The department may approve all or part of any demonstration of equivalent protection. If a demonstration is not approved in whole or in part, owners and operators may obtain a review of the decision in accordance with the administrative review provisions in 20.5.10 NMAC.

E. The department may disapprove all or part of any demonstration of equivalent protection or may approve the demonstration with conditions or impose conditions on or withdraw an existing approval when new information becomes available or circumstances change such that an unacceptable threat to public health, safety and welfare or the environment exists.

[20.5.12.1237 NMAC - Rp, 20 NMAC 5.12.1230, 8/15/03]

20.5.12.1238 to 20.5.12.1299 [RESERVED]

HISTORY OF 20.5.12 NMAC:

Pre-NMAC History:

The material in this part was derived from that previously filed with the commission of public records - state records center and archives.

EIB/USTR 12, Underground Storage Tank Regulations - Part XII - Corrective Action for Petroleum UST Systems, filed 6/13/90.

History of Repealed Materials:

20 NMAC 5.12, Environmental Protection, Underground Storage Tanks, Corrective Action for UST Systems Containing Petroleum Products (filed 10/6/95), repealed 2/2/00.

20 NMAC 5.12, Corrective Action for UST Systems Containing Petroleum Products (filed 12/30/99), repealed 8/15/03.

Other History:

EIB/USTR 12, Underground Storage Tank Regulations - Part XII - Corrective Action for Petroleum UST Systems, filed 6/13/90, was renumbered, reformatted and replaced by 20 NMAC 5.12, Underground Storage Tanks, Corrective Action for UST Systems Containing Petroleum, effective 11/05/95.

20 NMAC 5.12, Underground Storage Tanks, Corrective Action for UST Systems Containing Petroleum, filed 10/06/95, was replaced by 20 NMAC 5.12, Corrective Action for UST Systems Containing Petroleum Products, effective 2/2/00.

20 NMAC 5.12, Corrective Action for UST Systems Containing Petroleum Products, filed 12/30/99, was renumbered, reformatted and replaced by 20.5.12 NMAC, Corrective Action for Storage Tank Systems Containing Petroleum Products, effective 8/15/03.